

Comments on: Carbon Management

Submitted by the New Jersey Environmental Justice Alliance to the White House Environmental Justice Advisory Council

19 June 2024

The New Jersey Environmental Justice Alliance (NJEJA) is a statewide non-profit founded to address the legacy of environmental pollution in low-income and Of Color communities. NJEJA is a member of the Climate Justice Alliance as well as the Equitable and Just National Climate Platform, where we regularly interact and work alongside leaders from other environmental justice¹ (EJ) and climate-impacted communities across the nation. As the only statewide EJ organization, we work with EJ Communities and residents across the state of New Jersey.

We are grateful to the White House Environmental Justice Advisory Council (WHEJAC), specifically the members of the Carbon Management workgroup, who have labored intensively to create recommendations that reflect the voices of communities disproportionately burdened by energy infrastructure.

On behalf of the New Jersey Environmental Justice Alliance, we respectfully submit these comments calling upon the WHEJAC to:

- Name the risks of carbon capture and storage (CCS) and hydrogen co-firing;
- Recommend to the Biden Administration that such false solutions are delaying the transition to sustainable, truly clean solutions;
- Highlight the outsized federal investment in carbon management technologies;

¹ The term “environmental justice communities” refers to communities Of Color and communities with low-income.

- Call to attention how such investments make it more challenging to protect EJ communities from the detrimental health impacts of greenhouse gas (GHG) co-pollutants²; and,
- Advocate for increased transparency and accountability in investments and project development.

The Risks of Carbon Capture and Hydrogen Co-firing

There is a clear and present danger associated with carbon management technologies, particularly CCS and hydrogen. These technologies risk detrimental impacts on frontline and EJ communities. These projects do not represent viable, safe, or appropriate solutions to the risk of air pollution and climate change.

Carbon Capture and Storage (CCS)

CCS distracts from the necessity of transitioning away from fossil fuels. Merely capturing carbon emissions does not actually limit or phase out the use of fossil fuels. Furthermore, these projects have demonstrated, at best, failure and at worst, increased emissions and harm. The Department of Energy disbursed, and wasted, \$195 million dollars on the Petra Nova project³ which ran into multiple technical difficulties, could not stay consistently operational, and failed to capture CO₂ at its promised rate. Similarly, a recent study on a carbon capture project in Illinois⁴ found that it had a capture rate of merely 10-11%. Likewise, a study from the EU found that CCS projects at power plants actually increase NO_x by 44% and particulate matter by 33%.

² Copollutants are hazardous produced by GHG emission sources that include but are not limited to: NO_x, PM_{2.5}, SO₂, HFCs, lead, mercury, cadmium. Environmental Protection Agency (EPA). "Sources of Greenhouse Gas Emissions." EPA, May 2024. <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions#transportation>.

³ Directors, Clarion Energy Content. "Groundbreaking Petra Nova CCS Project Back up and Running, Owner Says." Power Engineering (blog), September 14, 2023.

<https://www.power-eng.com/emissions/groundbreaking-petra-nova-ccs-project-back-up-and-running-owner-says/>.

⁴ Gibbons, Brendan. "In Illinois, a Massive Taxpayer-Funded Carbon Capture Project Fails to Capture about 90 Percent of Plant's Emissions." Oil and Gas Watch News, April 25, 2024. <https://news.oilandgaswatch.org/post/in-illinois-a-massive-taxpayer-funded-carbon-capture-project-fails-to-capture-about-90-percent-of-plants-emissions>.

In addition to such operational challenges, there are numerous risks associated with transportation and storage, including pipeline leakage and rupture, which can lead to highly hazardous situations. CO₂ is odorless, colorless, heavier than air, and is an asphyxiant and intoxicant that will harm humans and animals living nearby. Underground storage can also bring about seismic activity and groundwater contamination.

Hydrogen

In the matter of hydrogen usage and the proposed hydrogen hubs, EJ Communities have faced significant challenges in receiving transparent and accessible information on these projects. We have identified the risks associated with these projects throughout their entire life cycle, and we have received little to no response to our serious concerns and essential questions.

Hydrogen as an energy source will require significant infrastructural development even if the industry stakeholders' proposal to use existing natural gas pipelines (which brings about its own grave dangers) is accepted. As the smallest chemical element, hydrogen vibrates at a high frequency and, thus, is more prone to creating cracks and fissures in pipelines, especially if rigorous safety measures are not implemented. Such cracks can lead to leaks and explosions due to hydrogen's high flammability. Hydrogen explosions are larger and burn hotter than methane, risking the lives of host communities and damage to the environment where this infrastructure is situated.

Furthermore, there is significant resource input required in order to develop hydrogen, including, in the context of green hydrogen, valuable water and renewable electricity usage. Hydrogen production also holds the potential to increase NO_x emissions because of its hotter flame temperature.⁵ We cannot work to decrease GHGs and CO₂ emissions at the expense of increasing GHG co-pollutant emissions and intensifying local air pollution levels. Such investment and infrastructure should be centered on a robust build-out of renewable energy,

⁵ Office of Energy Efficiency and Renewable Energy. "Does the Use of Hydrogen Produce Air Pollutants Such as Nitrogen Oxides? | Department of Energy." Does the use of hydrogen produce air pollutants such as nitrogen oxides? Accessed June 19, 2024. <https://www.energy.gov/eere/fuelcells/does-use-hydrogen-produce-air-pollutants-such-nitrogen-oxides>.

which would be more effective and better suited to the goals of electrifying sectors currently relying on fossil fuels.

In understanding the development of these projects, we recognize that CCS and hydrogen are incredibly likely to be sited in EJ communities. We cannot allow our communities to become a sacrifice zone, putting our health, lives, and neighborhoods at risk. In all, infrastructural investments can and should focus on truly clean, renewable energy sources that do not continue to place EJ Communities in positions of precarity and risk to our health, physical safety, and life.

We call on the WHEJAC to represent us, name the risks of CCS and hydrogen, and tell the Biden Administration that these and other false solutions are delaying the transition towards proven and sustainable solutions and putting our communities' lives on the line yet again.

The Necessity of Community-Driven, Focused Federal Investments

As previously articulated in these comments and highlighted by numerous other EJ leaders across the country, many communities are steadfastly opposed to the use of carbon management technologies. NJEJA is deeply disturbed that these investments are framed as Justice40 (J40) initiatives and that hundreds of billions of tax dollars are being utilized to research and deploy CCS and hydrogen at the expense of better, safer, and more readily available systems of emissions reduction. Subsidies, tax breaks, loans, and investments towards these technologies are carbon reduction gains made at the expense of EJ Communities. We believe that this may effectively neutralize the legacy of President Biden's Executive Order.

Just last week, Dr. Robert Bullard, a WHEJAC member, published an Op-ed detailing the massive financial blunder that our country is poised to make with the expanded 45Q tax credits through the Inflation Reduction Act⁶. Such credits would generate \$5 billion dollars from

⁶ Robert D. Bullard and Steve Ellis, "Our Carbon Capture Experiment Is the Antithesis of Environmental Justice," Text, The Hill (blog), May 30, 2024, <https://thehill.com/opinion/energy-environment/4691849-our-carbon-capture-experiment-is-the-antithesis-of-environmental-justice/>.

taxpayers' pockets over the next five years. Tax incentives are not free; eventually they come from the funding paths of least resistance, such as social service programs and education.

Similarly, there is a \$12.1 billion dollar funding investment from the Infrastructure Investment and Jobs Act, with a potential of \$290 billion dollars in loan funds. The budget for oversight and enforcement will never match these investments. Furthermore, while the incentives are baked into tax law for the next decade, agency funding for oversight and enforcement is subject to political will. The aforementioned issues speak nothing to the perverse incentives of creating and expanding carbon markets. There is a real and substantive concern that once these dollars leave the Department of Treasury, the market will do what the market has historically done: create new markets that cannot be controlled or regulated until it is too late. These misguided investments are dooming our communities, country, and world and must be reconsidered before it is too late.

The Indispensable Need for Increased Oversight

While focused investment and a shift in how these federal incentives are built is quintessential to the health and safety of EJ communities as we address the climate crisis, so too must we acknowledge the need for increased federal oversight, accountability, and transparency. The Government Accountability Office (GAO) has published several reports on carbon capture. In particular, the GAO published a report in December 2021, which reviewed DOE investments in coal and industrial CCS projects up until October 2021.⁷ The report found that, despite nearly \$700 million dollars invested to bring CCS to 8 different coal projects, all but one project had failed to be completed. Such failures were primarily attributed to external economic factors. The singular project that did successfully enter operation was the Petra Nova project mentioned above, which was shut down in 2020.

This finding reveals that despite massive investment, CCS is still not financially viable; it is better to shut down coal plants or simply not build new plants rather than attempt to invest in CCS to decrease their emissions. Therefore, investing mass amounts of public funding into a

⁷ Frank Rusco, "Carbon Capture and Storage: Actions Needed to Improve DOE Management of Demonstration Projects" (Government Accountability Office, March 10, 2022), <https://www.gao.gov/products/gao-22-105111>.

failing technology that has neither proven its efficacy at reducing carbon emissions nor decreasing GHG co-pollutant emissions (and in some cases increases them) is a flawed tactic for managing the climate crisis. We must transition away from fossil fuels and invest in truly clean, renewable technologies, including solar, wind, and small-scale hydro-electric.

Likewise, we recommend an increase in oversight of carbon management investments. The singular recommendation from the GAO report was for greater oversight and accountability of DOE CCS demonstration project funding.⁸ The DOE has spent hundreds of millions of dollars on such projects, many of which have never reached completion. This is true for both CCS as well as hydrogen projects. We call particular attention to the ongoing hydrogen hub projects across the country which have seen significant community opposition, an incredible lack of transparency and accountability, little to no effective community engagement, no promised right of refusal, and little to no oversight.

Concluding Thoughts

We again applaud the WHEJAC in voting to support the GAO report's recommendation and thank you for your diligent work in supporting EJ communities. We urge you to continue this vital work to push against false carbon management solutions and call for greater oversight, transparency, and more effective investments to better project EJ Communities. We would be happy to discuss our comments in more depth and share with you our experiences navigating the hydrogen hubs, particularly the MACH-2 project in New Jersey.

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⁸ Frank Rusco, "Carbon Capture and Storage: Actions Needed to Improve DOE Management of Demonstration Projects" (Government Accountability Office, March 10, 2022), <https://www.gao.gov/products/gao-22-105111>.